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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,240	06/05/2006	Miklos Illyes	ILLYES ET AL 2 PCT	4000

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EXAMINER	
SAIDI, AZADEH	
ART UNIT	PAPER NUMBER
3735	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,240	ILLYES ET AL.	
	Examiner	Art Unit	
	Anita Saidi	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/21/2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to applicant's arguments filed on December 21, 2007. The examiner acknowledges the amendments to claims 1-8 and 10-11; the cancellation of claim 9; and the addition of new claim 12. Currently claims 1-8 and 10-12 are pending.

2. The examiner acknowledges the filing of the new declaration and the amendments to the specification. The objections to declaration and specification have been withdrawn.

Response to Arguments

3. Applicant's arguments, see page 10, lines 8-16, filed on December 21, 2007, with respect to the rejection(s) of claim(s) 9-11 under 35 USC 101 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

4. Applicant's arguments, see page 10, lines 8-22 and page 11, lines 1-12, filed on December 21, 2007, with respect to the rejection(s) of claim(s) 1-11 under 35 USC 112, first paragraph have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

5. Applicant's arguments, see page 10, lines 8-16, filed on December 21, 2007, with respect to the rejection(s) of claim(s) 9-11 under 35 USC 101 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

6. The rejections to claims 1-11 under 35 USC 112 second paragraph has been withdrawn based on the amendments to claims 1-11.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3, 5, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,702,754 to Ogura et al (Hereinafter "Ogura '754") in view of US 5,680,870 to Hood Jr. et al (Hereinafter "Hood") and US 5,054,493 to Cohn et al (Hereinafter "Cohn").

In reference to claims 1-3, 5, 10 and 12:

Ogura teaches:

An oscillometric blood pressure monitor system and method of use thereof. The system comprises an automated sphygmomanometer (Fig. 1 of Ogura '754). The system will position a pulse pressure wave sensor (54 of Ogura '754) at the optimum pressing position (Col. 6, lines 55-60 of Ogura '754). The target pressure is pre-set at 180mmHg which is above the systolic pressure (Col. 7, lines 14-17 and Col. 12, lines 59-68 of Ogura '754). The data is sampled and

stored on a memory unit (Col. 5, lines 60-68 of Ogura '754). Systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR) values are derived and stored in the memory (Col. 7, lines 23-32, Col. 7, lines 50-65 and Col. 13, lines 4-20 of Ogura '754). A processor is used to determine an Augmentation Index; and an Ejection Duration (Fig. 8 and Col. 7, line 65-Col.8, line 20 and Col. 8, line 63-Col. 9, line 16 of Ogura '754). The augmentation unit (96 of Ogura '754) is connected to a common program controller (76 of Ogura '754) which is attached to a data analyzer (Figs. 8-9 and Fig.11 of Ogura '754).

However Ogura fails to teach that:

The system comprises an oscillation wave separating and storing signal detector; the sampling rate is at least 200/heart cycle or 180-220/second; the memory has at least 9 bit resolution or 10-12 bit; and a digital anti-filter is used to compensate the distortions rising at the sampling, separating and digitizing the oscillation wave.

Hood teaches:

An oscillometric blood pressure monitor which digitizes the collected data and, by adding a dither signal (anti-filtering the collected signals), will increase the signal resolution (Abstract and Col.4, lines 13-33 and Col. 5, lines 42-68 of Hood). The output of

> the pressure transducer and the preamplifier (300 of Hood), and the dither signal from the oscillator (502 of Hood), are input to an adder (500 of Hood). The sum of these signals is then digitized by a converter (302 of Hood). An A/D converter (400 of Hood) with a resolution of 14-20 bit is used to save and digitize the signals, and the oscillation complexes and static pressure signals are then separated and processed by pulse separation software (402 of Hood).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used anti-filter and electronic systems, such as data storage with a 9 bit resolution similar to that taught by Hood in the arteriosclerosis inspecting apparatus of Ogura '754 in order to store data and increase the signal resolution. However, the combination fails to teach that the:

> The sampling rate is 200/heart cycle or 180-220/seconds.

Cohn teaches:

> A method and apparatus for monitoring hemodynamic characteristics of the patient which comprises an arterial pressure transducer (34 of Cohn) for monitoring the blood pressure of a patient and an A/D converter (12 of Cohn) for sampling the pulse wave signals and a microprocessor (14 of Cohn) for analyzing the collected data. The A/D has a 200 samples/second resolution

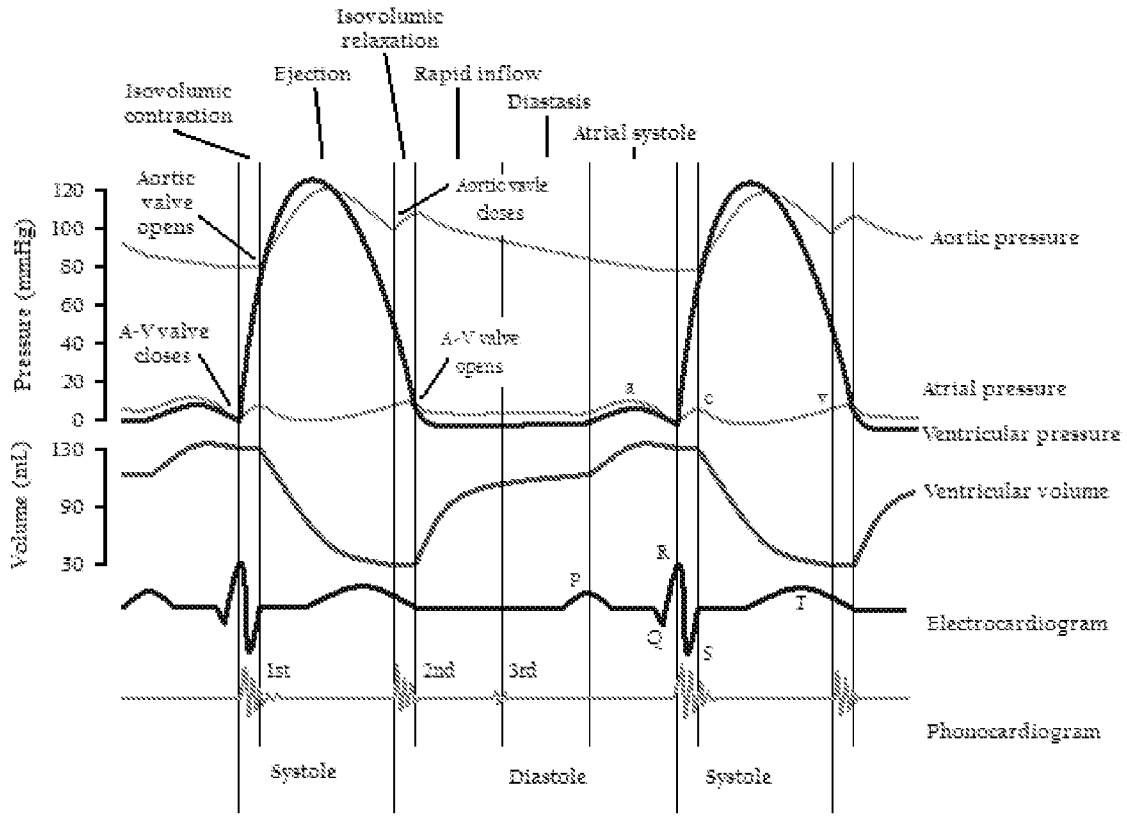
which is satisfactory to capture the highest frequency components of interest in the brachial pressure pulse (Col.9, lines 49-62 of Cohn).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used an A/D converter with 200 samples/second sampling resolution, similar to the one taught by Cohn, in the arteriosclerosis inspecting apparatus of Ogura '754, as modified by Hood, in order to capture the highest frequency components of interest in the pressure pulse signal.

In reference to claim 11:

The cuff is set at a previously determined diastolic value (Col. 7, lines 1-5 of Hood). The received heart cycle curve is divided into two parts with the ED end-point, to constitute Systole Area Index (SAI) and Diastole Area Index (DAI) values (Fig. 7 and Col. 8, lines 5-14 of Ogura '754).

As disclosed by Ogura '754 (Col. 8, lines 5-14), the time difference between rising point and the dicrotic notch can be determined as ejection time, where the end points of the ejection time will separate the cardiac cycle into systole and diastole areas. This is shown in the figure below.



http://en.wikipedia.org/wiki/Cardiac_cycle

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura '754 in view of Hood and Cohn as applied to claim 1 above, and further in view of US 7,029,449 to Ogura (Hereinafter "Ogura '449").

In reference to claim 4:

Ogura '754, as modified by Hood and Cohn, teaches all of the claim limitations; see the rejection of claim 1 above.

However, the combination fails to teach:

> A time-arithmetic unit establishing a Pulse Wave Velocity (PWV), or an integrator unit establishing a Systole Area Index (SAI) and Diastole Area Index (DAI).

Ogura '449 teaches:

> A device for arteriosclerosis detection which monitors the blood pressure of a subject. The system is capable of measuring ejection time, augmentation index and pulse wave velocity in order to detect arteriosclerosis (Abstract of Ogura '449). The system comprises a pulse wave velocity related information obtaining device (98 and Col. 1, lines 16-21 of Ogura '499).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have provided a pulse wave velocity monitor similar to the one taught by Ogura '449 in the arteriosclerosis detection device of Ogura '754, as modified by Hood and Cohn, in order to inspect the blood vessels of a patient to detect arteriosclerosis.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura '754 in view of Hood and Cohn as applied to claim 1 above, and further in view of US 6,398,727 to Bui et al (Hereinafter "Bui").

In reference to claim 6:

Ogura '754, as modified by Hood and Cohn, teaches all of the claim limitations; see the rejection of claim 1 above.

However, the combination fails to teach that:

> The apparatus is a portable, 24h ambulatory blood pressure monitor which comprises a telemedical home care system.

Bui teaches:

> A patient home management system which comprises a portable 24 h ambulatory (Col. 26, lines 64-68 of Bui) unit for monitoring and recording a plurality of physiological conditions of a patient (Figs.1 and 2 of Bui), which comprises multiple sensors for monitoring blood pressure (54 of Bui) and ECG (217 of Bui) of a subject and transmitting the collected data to a health care provider (Col. 6, lines 14-55 of Bui).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used a 24 h ambulatory similar to the one taught by Bui in the arteriosclerosis detection device of Ogura '754, as modified by Hood and Cohn, in order to provide a continuous monitoring of physiological conditions of an ambulatory patient.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura '754 in view of Hood and Cohn as applied to claim 1 above, and further in view of US 5,238,001 to Gallant et al (Hereinafter "Gallant")

In reference to claim 8:

Ogura '754, as modified by Hood and Cohn, teaches all of the claim limitations; see the rejection of claim 1 above.

However, combination fails to teach that:

The apparatus comprising a 24h blood pressure monitor, which is controlled by a built-in ECG.

Gallant teaches:

An ambulatory patient monitoring system (100 of Gallant), which comprises an ECG monitoring unit (110 of Gallant) which triggers a blood pressure monitoring module (210 of Gallant) when an abnormality is detected (Col. 3, lines 4-22 of Gallant).

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used an ECG monitoring unit in conjunction with a blood pressure monitor as taught by Gallant in the arteriosclerosis detection device of Ogura '754, as modified by Hood and Cohn, in order to monitor the blood pressure when an abnormal heart rate occurs so that the health care provider could

monitor the heart activity as well as the blood pressure measured during those incidents.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Saidi whose telephone number is (571)270-3001. The examiner can normally be reached on Monday-Friday 9:30 am - 6:00 pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on 571-272-4730. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles A. Marmor, II/
Supervisory Patent Examiner
Art Unit 3735

/A. S./
Examiner, Art Unit 3735
4/3/2008